

# A MULTIDEPOSITION SACVD REACTOR

## ABSTRACT

There is disclosed a high throughput multideposition SACVD reactor that enables the rapid thermal deposition of dielectric materials such as  $\text{Si}_3\text{N}_4$ ,  $\text{SiO}_2$ , and  $\text{SiON}$  and non-dielectric materials such as polysilicon onto a semiconductor substrate in the same chamber according to the desired sequence. Such a reactor has a processing chamber which is well adapted to single semiconductor wafer processing. The processing chamber includes an improved susceptor to support the wafer and a specific gas distribution system adapted to supply the different gases used in the deposition process and for cleaning. The improved susceptor consists of a standard carbon plate coated with a polysilicon film to protect it against said cleaning gases when they are aggressive to carbon. The present invention also encompasses a method of fabricating said improved susceptor.